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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,274	06/19/2003	Alberto Baroncelli	B-322	6437

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EXAMINER

BRIER, JEFFERY A

ART UNIT

PAPER NUMBER

2628

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/601,274	Applicant(s) BARONCELLI ET AL.	
	Examiner Jeffery A. Brier	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 8/18/2006 has been entered.

Response to Amendment

2. The amendment filed on 8/18/2006 has been entered. The replacement sheets of drawings overcomes the objection to the drawings set forth in the action mailed on 10/18/2005. The cancellation of claims 1-14 obviates the issues raised concerning these claims in the action mailed on 10/18/2005. However new issues have been found in both the drawings and in newly submitted claims 15-29.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 26 and 27 of figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the

description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 15-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 15 at lines 31-33 claims "wherein both the X-sorter and the active edge table comprise a dual port memory including two alternating ping-pong buffers". The specification at page 8 lines 3-33 especially lines 9-20 discussed using dual port ping-pong memories for use in the active edge X-sorter circuit 15. The specification at page

7 lines 12-33 describes using a small memory as the active edge table and using a LIFO to generate addresses for the active edge table and original claim 6 did claim the active edge table comprises a dual port memory, where two alternating ping-pong buffers are stored. However original claim 6 and corresponding portion of the specification did not describe the storing the active edge table in the ping-pong buffer. The only portions of the specification which defines the contents of the ping-pong memory is at page 8 lines 3-33 especially lines 9-20 which discussed using dual port ping-pong memories for use in the active edge X-sorter circuit 15. Thus, in view of the specification the dual port memory does store a ping-pong buffer I, II for storing in buffer I the actual row X coordinate of the edges and their addresses and in buffer II updated X coordinate. Thus, from the application as a whole the claims do not correctly claim the active edge table comprise a dual port memory including two alternating ping-pong buffers and the specification fails to convey that applicant had possession of this claim limitation.

Claim 20 at lines 2-4 claims "the predetermined number of subpixels in a real display pixel is defined as $N=i*4$ ". The specification at page 10 lines 22-24 describes "The antialiasing process works with a coordinate resolution four times greater than the real pixel size." . Original claim claimed in claim 8 "the antialiasing hardware circuit computes the number of sub-pixels present in a $N=i*4$ real pixels per clock, to obtain the weight factor used for a scan-converted row." . Thus, from the application as a whole this claim does not correctly claim how the number of sub pixels was described as being determined.

Claims 21 and 25 claim in the wherein clause "the color composer subunit reduces the number of memory accesses to the plurality of bitmaps and mathematical tables by the times of repetitions of the transformed destination pixel into the dump hardware buffer circuit". This is not conveyed by the specification. The specification does not describe color composer 22 as by repetition into the dump hardware buffer circuit optimizing or reducing the number of memory accesses to the plurality of bitmaps and mathematical stored in the display list memory.

Claims 26, 27, and 29 all at lines 6-7 claim "store the color pixels processed by ant aliasing and transparence factors". As seen in figure 8 and the corresponding description at page 11 lines 16 to 26 the dump buffer stores color pixels processed by the anti aliasing weight but this value is not processed with transparence factors. Figure 8a clearly shows the color withy alphas being multiplied with the aliasing value. Thus, the specification fails to convey multiplying the color pixel value by both the anti aliasing and transparence factors prior to storage into the dump buffer.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 at line 2 claims "rendering vector and bitmap graphics objects to a final image", while the specification describes rendering vector graphics objects into a final

Art Unit: 2628

bitmap image, refer to original claim 1 last two lines, original claim 15 at step f, and page 2 lines 2-17, the body of the claim does not claim this. As a whole the claims do not clearly claim "rendering bitmap graphics objects to a final image". Thus, claims 15-29 are incomplete because they do not claim how the vector graphic objects are rendered to a final image, in essence they are lacking essential steps to carry out the claimed invention.

It is also unclear if the claimed final image, claim 1 at line 2, is a bitmap image or some other computer graphics entity.

Claim 15 at line 4 claims "decomposing graphics objects in Bezier curves", while the specification does not describe graphics objects in Bezier curves but rather graphics objects formed with Bezier curves, refer to page 5 lines 12-22. Thus, from the application as a whole the claims do not clearly claim the function performed by the control processing unit.

Claim 15 at lines 16-20 claims "said Bezier hardware circuit ... arranged for calculating the X and Y coordinates representing the anchor and control points of each Bezier curve subsegment". The specification at page 6 lines 12-16 describes "two anchor points and one control point" for the Bezier curve to be processed and at page 6 lines 17-31 discusses subdividing the sub curves into further sub curves, however, it is apparent the sub curves do not have anchor points and control points, thus, each sub curve has two anchor points and one control point not "control points", also refer to figure 4. Thus, from the application as a whole the claims do not clearly claim the points calculated by the Bezier hardware circuit.

Claim 15 at line 25 claims "the active edge table" which lacks antecedent basis in the claim.

Claim 16 at lines 4-5 claims "determining a weight factor for a scan-converted row" while the specification at page 10 20-23 does mention "obtaining a weight factor for a scan-converted row", however, at page 11 lines 1-3 it is clear each pixel has its own weight factor rather than a weight factor for a row. Thus, from the application as a whole this claim does not clearly claim whether the weight factor is determined per row or per pixel. Dependent claim 20 does not correct this issue.

Claims 17 and 23 both at line 3 claim "acceding" which word render the claim limitation "a color hardware circuit arranges for acceding to a plurality of bitmaps". Both claims at line 4 claim "the display list memory means" which lacks antecedent basis in the claim since parent claim 15 does not claim display list memory means.

Claim 22 depends upon claim 18 and depends upon claim 18. It is not clear if the dump buffer of claim 22 is the same dump buffer of claim 18 or a different dump buffer.

Claims 21 and 25 claim in the wherein clause "the color composer subunit reduces the number of memory accesses to the plurality of bitmaps and mathematical tables by the times of repetitions of the transformed destination pixel into the dump hardware buffer circuit". It is not clear which memory the number of accesses is reduced.

Claim 25 at line 7 claims "the weight factor" which lacks antecedent basis in the claim because its parent claims do not set forth this claim limitation. Claim 21 avoided this issue due to its dependence upon claim 16 which sets forth a weight factor.

Claims 26, 27, and 29 all at lines 13-14 claim "the output color from the color generator sub unit" which lacks antecedent basis in the claim.

Claims 26, 27, and 29 all at line 15 claim "writing the result again inside the store buffer memory". The term "again" renders these claims indefinite because the result of step i was only performed just before step ii, thus, the result is not "again" written inside the store buffer memory.

Claims 26, 27, and 29 all at the last line claim "the pixel region" which lacks antecedent basis in the claim.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 15-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims fail to claim a useful, concrete, and tangible result. These claims are directed to data processing without claiming a real world result of the data processing. The claimed "final image" at claim 15 line 2 does not manifest a result that is useful, concrete, and tangible. *State Street Bank & Trust Co. v. Signature Financial Group Inc.* (CA FC) 47 USPQ2d 1596, 1603

Art Unit: 2628

(7/23/1998). AT&T Corp. v. Excel Communications Inc. (CA FC) 50 USPQ2d 1447.

On page 1603 first paragraph the CAFC wrote in State Street:

Under *Benson* , this may have been a sufficient indicium of nonstatutory subject matter. However, after *Diehr* and *Alappat* , the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." *Alappat* , 33 F.3d at 1544, 31 USPQ2d at 1557. 7

On page 1603 paragraph labeled [4] the CAFC wrote:

[4] The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to -- process, machine, manufacture, or composition of matter-- but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See *In re Warmerdam* , 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994).

Specification

10. The disclosure is objected to because of the following informalities:

Page 4 lines 31-34 describes "decomposes all the graphics objects in Bezier curves", while the specification as a whole does not describe graphics objects in Bezier curves but rather graphics objects formed with Bezier curves, refer to page 5 lines 12-22.

Appropriate correction is required.

Claim Objections

11. Claims 20, 21, 25, 26, 27, and 29 objected to because of the following informalities:

Claim 20 at line 5 "pixel" should be "pixels";

Claim 21 at lines 9 and 13 "in to" should be "into";

Claim 25 at lines 9 and 13 "in to" should be "into"; and

Claims 26, 27, and 29 all at line 17 "required" should be "require".

Appropriate correction is required.

12. A prior art rejection cannot be made because the metes and bounds of the claims are not definite and because the specification does not support the claims.

Thus, an indication of allowability would be premature. In re Steele, 305 F.2d 859, 134 USPQ 292 (CCPA 1962) (it is improper to rely on speculative assumptions regarding the meaning of a claim and then base a rejection under 35 U.S.C. 103 on these assumptions).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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